

REMARKS

Reconsideration of the application in light of the amendments and the following remarks is respectfully requested.

Claims 1-3, 5-38 and 40-51 are pending in this application. Claims 4 and 39 are canceled. Claims 52-54 have been previously canceled. Claims 1- 3, 5-8, 13, 16-19, 27-28, 37-38, 42-45, 47 and 50-51 have been amended. No new matter has been added by this amendment.

Rejections Under 35 U.S.C. § 102

The Examiner has rejected claims 1-5, 7-8, 16-20, 27-35, 37-43 and 45-46 under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,898,579 to Boys *et al.* ("Boys I"). The Examiner contends that Boys I discloses a frequency monitor 510 that is the "controller configured to selectively tune or detune the pick-up in response to the load sensed by the sensor" recited in claim 1. The Examiner further contends that claims 28 and 37 also disclose a controller configured to selectively tune or detune based upon the load sensed by the sensor. The Examiner argues that movement of a pick-up changes the frequency in the primary circuit and that this shift in frequency is sensed by the primary circuit and amounts to the load condition.

Claims 1, 28 and 37 as amended recite that the controller varies the effective capacitance or inductance of a capacitive or inductive element of a controlled reactive element of the pick-up resonant circuit dependent on a sensed power requirement of the load. The frequency monitor referenced 510 in Boys I is used to ensure that the secondary resonant circuit 500 closely tracks the operating frequency of the primary circuit 501. As set forth in column 5, lines 49 to 56, the frequency monitor 510 may comprise a phase locked loop i.e. it is intended to lock onto, or closely follow, the phase of the primary circuit 501. Thus the monitor 501 does not sense a power requirement of the load.

The Examiner also contends that figure 6 of Boys I is relevant to independent claims 1, 28 and 37. Applicants respectfully submit that figure 6 of Boys I does not disclose a controller configured to selectively tune or detune the pickup in response to the load sensed by the sensor. As disclosed in column 5, lines 59 to column 6, line 4, the secondary circuit of figure 6 is a "dummy trolley" - i.e., the secondary circuit of figure 6 has no load. It is used as a line monitoring device and also to modify the characteristics of the primary circuit or loop (e.g., the primary loop resonance) (Boys I, col. 6, lines 14-18). As the dummy pick-up has no load it omits a feature of claims 1, 28 and 37. The other pick-ups are not disclosed as having resonant circuits that can be tuned to control the power transfer to the load that each presumably supplies.

The examiner also argues that Boys I discloses a phase device that is configured to sense the phase of a voltage or current in the pick-up resonant circuit and a controller to active the switching device dependent on the sensed phase. Applicants respectfully disagree and traverse. As explained above, the features recited in claim 1 from which claim 5 depends are not present in Boys I. Moreover, the phase discussion on column 4 line 65 to column 5 line 5 teaches away from using a phase device to facilitate tuning or detuning a resonant circuit. The disclosure is that the operating frequency of the circuit is determined by the values of inductance and capacitance.

Therefore, Applicants respectfully submit that claims 1, 28 and 37 are allowable over Boys I because Boys I does not disclose all the elements of claims 1, 28 or 37. Claims 3, 4, 7 to 8, 16 to 20, 27, 29 to 35, 38 to 43 and 45 to 46 depend upon one of independent claims 1, 28 and 37. Accordingly, Applicants respectfully submit that these claims are also allowable by reason of their dependency upon an allowable base independent claim. Applicants request reconsideration and withdrawal of the rejection of claims 1,3,4, 7-8, 16-20, 27-35, 37-43 and 45-46 under 35 U.S.C. § 102(b) as anticipated by Boys I.

The Examiner has rejected claims 1, 4, 28 and 37-39 under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,892,300 to Rydval. The Examiner contends that Rydval discloses a control device 11, used as a "controller configured to selectively tune or detune the pickup in response to the load sensed by the sensor" recited in claim 1 and similarly in claims 28 and 37.

Applicants respectfully disagree with the Examiner. Rydval teaches tuning of the secondary circuit to match the frequency of the primary circuit (column 1, lines 28 to 39). Rydval does not disclose either a sensor configured to sense a power requirement of the load. Rather, control device 11 is used to switch in and out additional capacitors as a way to change the tuning of a resonant circuit to match that of the primary circuit (column 3, lines 33 to 38). The parameter which is detected is the output voltage of the resonant circuit (column 3, lines 64 to 65). Thus a power requirement of a load that the circuit supplies is not sensed.

Therefore, Applicants respectfully submits that claims 1, 28 to 37 are allowable over Rydval because it does not disclose all of the elements of claims 1, 28 or 37. Furthermore, as claims 3, 4, and 38 to 39 depend on one of the independent claims 1, 28 and 37, Applicants submit that these claims are also allowable by reason of their dependency upon an allowable base independent claim. Applicants request reconsideration and withdrawal of the rejection of claims 1, 3, 4, 28 and 37-39 under 35 U.S.C. § 102(b) as anticipated by Rydval.

The Examiner has rejected claims 1- 4 and 37-39 under 35 U.S.C. § 102(b) as anticipated by International Patent Publication WO 01/18936 to Boys *et al.*, which the Examiner has referred to as "Auckland", but which we refer to herein as "Boys II". In particular, the Examiner contends that supply 208 in Boys II is a sensor configured to sense a condition of the load, and that switch control means 207 in Boys II is a "controller configured to selectively tune or detune the pickup in response to the load sensed by the sensor by varying the effective capacitance or inductance of the capacitive or the inductive element of the pickup circuit" as recited in claim 1 and similarly in claim 37.

Applicants respectfully disagree with the Examiner and traverse. Boys II discloses the switch control means 207 as opening and closing a switch 203, forming a controllable duty cycle of switch 203, in order to control the average current and power to a load (page 7, line 20 to page 8, line 1). Closure of switch 203 allows a resonance to build up in the series resonant circuit so that power is supplied to the load, and opening the switch allows the resonance to die. Thus the entire resonant circuit is either resonant or non-resonant. As explained on page 7 lines 20-23 "The preferred control method for this control means is hard on/ hard off so that resistive losses are

minimized, and a closed: open ratio is selected so that the output voltage is kept at about a desired amount. Times are generally equivalent to tens or hundreds of cycles.” And at page 5 lines 1 and 2 “Preferably a repetitive cyclic operation of the switching means is relatively slow, so that induced resonating currents may substantially die away during a normal “OFF” interval”.

Accordingly, Applicants respectfully submit that the circuit of Boys II does not provide a “controlled reactive element” nor “[vary] the effective capacitance... of the controlled reactive element of the pickup resonant circuit” as recited in claims 1, 27 and 37. Claims 3 and 4, and 37 to 39 should be allowable in reason of their dependency upon an allowable base dependent claim.

For the foregoing reasons, Applicants request reconsideration and withdrawal of the rejection of claims 1-4 and 37-39 under 35 U.S.C. § 102(b) as anticipated by Boys II.

Rejections Under 35 U.S.C. § 103

The Examiner has rejected claims 6, 9-12, 21-23 and 30 under 35 U.S.C. § 103(a) as obvious over Boys I. Applicants respectfully disagree with the Examiner and traverse.

As set forth above, the rejected claims depend upon one of independent base claims 1 or 28. Applicants respectfully submit that Boys does not disclose all limitations recited in claim 1 and similarly in claim 28. The teaching of Boys is to maintain the frequency of the secondary resonant circuit the same as the frequency of the primary circuit in order for optimal power transfer. Boys I teaches away from having the primary and secondary operate at different resonant frequencies (see column 2 line 64 to column 3 line 6). A separate and very different control strategy is then used to control the power delivered to a load. Therefore the teaching of Boys is simply to provide capacitance which allows the resonant pickup circuit to operate at the same frequency as the primary circuit. Accordingly, Applicants submit that it is not obvious to vary capacitance to tune the pickup “in response to the sensed load power requirement” as recited in claim 1 because the circuits of figures 5 to 6 of Boys do not sense a power requirement of the load nor specifically control a controlled reactive element of the resonant circuit to address the sensed load power requirement -

instead they sense the resonance of the primary circuit. Applicants submit that claims 6, 9 to 12, 21 to 23 and 30 are allowable as dependent upon an allowable base independent claim.

For the foregoing reasons, Applicants request reconsideration and withdrawal of the rejection of claims 6, 9-12, 21-23 and 30 under 35 U.S.C. § 103(a) as obvious over Boys I.

The Examiner has rejected claims 13 to 15 and 24 to 25 under 35 U.S.C. § 103(a) as unpatentable over Boys I in view of the Applicants' submitted prior art ("APA"). The Examiner contends that APA discloses that the switch device can comprise one or two switches. The Examiner further contends that Boys I discloses semi-conductor switches with anti-parallel diode connections and that it would have been obvious to apply these switches to the single switch of figure 6.

Applicants respectfully disagree with the Examiner and traverses. The rejected claims depend upon independent base claim 1. As discussed above, Boys I does not disclose all the limitations recited in claim 1. Applicants submit that claims 13 to 15 and 24 to 25 are allowable as dependent upon an allowable base independent claim. Applicants request reconsideration and withdrawal of the rejection of claims 13 to 15 and 24 to 25 under 35 U.S.C. § 103(a) as unpatentable over Boys I in view of APA.

The Examiner has rejected claims 24 and 26 under 35 U.S.C. § 103(a) as unpatentable over Boys I in view of the Applicants' admitted prior art ("APA"). Applicants respectfully disagree with the Examiner. The rejected claims depend upon independent base claim 1. As we have discussed above, Boys I does not disclose all the limitations recited in claim 1. Applicants submit that claims 24 and 26 are allowable as dependent upon an allowable base independent claim. Applicants request reconsideration and withdrawal of the rejection of claims 24 and 26 under 35 U.S.C. § 103(a) as unpatentable over Boys I in view of APA.

CONCLUSION

Each and every point raised in the Office Action mailed July 2, 2009 has been addressed on the basis of the above remarks. In view of the foregoing it is believed that claims 1-3, 5-38 and 40-51 are in condition for allowance and it is respectfully requested that the application be reconsidered and that all pending claims be allowed and the case passed to issue.

If there are any other issues remaining which the Examiner believes could be resolved through a Supplemental Response or an Examiner's Amendment, the Examiner is respectfully requested to contact the undersigned at the telephone number indicated below.

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Respectfully submitted,

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